

CLAIMS

1. A method for treating a gas characterized in that a low temperature plasma is generated in the presence of a metallic oxide oxidation catalyst.
2. The method according to claim 1, wherein said metallic oxide oxidation catalyst is a hopcalite catalyst or an activated manganese dioxide.
3. The method according to claim 1 or 2, wherein a gaseous compound is oxidized.
4. The method according to claim 1 or 2, wherein a volatile organic compound is decomposed.
5. The method according to claim 1 or 2, wherein a foul odor is rendered odorless.
6. An apparatus for treating a gas characterized by containing a low temperature plasma-generating unit carrying a metallic oxide oxidation catalyst.
7. The apparatus according to claim 6, wherein said low temperature plasma-generating unit contains a hollow-cylindrical electrode and a bar electrode placed at a central axis of said hollow-cylindrical electrode, and said metallic oxide oxidation catalyst is carried on an inner surface of said hollow-cylindrical electrode while a surface of said granular catalyst is exposed.
8. The apparatus according to claim 6, wherein said low temperature plasma-generating unit contains a hollow-cylindrical insulator, a hollow-cylindrical electrode mounted on said hollow-cylindrical insulator while an outer surface of said hollow-cylindrical insulator comes into direct contact with said hollow-cylindrical insulator, plural band electrodes arranged on an inner surface of said hollow-cylindrical insulator, and a metallic oxide oxidation catalyst arranged on said inner surface of said hollow-cylindrical insulator, said band electrodes being arranged parallel to each other in a direction of an axial of said hollow-cylindrical insulator on said inner surface thereof, and said metallic oxide oxidation catalyst is carried between said band electrodes while the surface of the granular catalyst is exposed.

9. The apparatus according to claim 6, wherein said low temperature plasma-generating unit contains many solid-cylindrical electrodes in a housing as two separately divided groups between which an electric-discharge can be carried out, and a metallic oxide oxidation catalyst is carried on a surface of said solid-cylindrical electrode while a surface of said catalyst is exposed.
10. The apparatus according to claim 6, wherein said solid-cylindrical electrode
- (1) is a combination of (a) a protecting electrode containing a core electrode and a hollow-cylindrical insulating sheath surrounding a circumference of said core electrode, and (b) a solid-cylindrical exposed electrode, a surface of which is capable of coming into direct contact with a gas to be treated, or
 - (2) is composed only of said protecting electrode.
11. The apparatus according to claim 6, wherein said low temperature plasma-generating unit contains, in a housing, (a) a solid-cylindrical protecting electrode containing a core electrode and a hollow-cylindrical insulating sheath surrounding a circumference of said core electrode, and (b) a conductive mesh electrode, and a metallic oxide oxidation catalyst is carried on said conductive mesh electrode while a surface of said catalyst is exposed.